AMENDMENT TO THE CLAIMS

Claims 1-19 (Canceled)

20. (New) A method of detecting urea in a liquid such as blood, other urea containing body fluids, dialysate or a combination thereof, comprising,

bringing said liquid into contact with a voltammetric electronic tongue, having at least one working electrode,

applying a predefined potential pulse program to said working electrode and a counter electrode,

recording current response data caused by the potential pulse program, and

performing a mathematical analysis of recorded current response data according to a model based on multivariate analysis to provide a result,

wherein said method detects the concentration of urea in the liquid.

21. (New) The method of claim 20, wherein said working electrode is selected from the group consisting of platinum, gold, rhodium, iridium and alloys thereof.

22. (New) The method of claim 20, wherein the potential pulse program comprises potential pulses each having a duration of less than 700 ms.

23. (New) The method of claim 22, wherein the pulses of said potential pulse program exhibit a stepped amplitude sequence, and wherein said pulses extend from a positive to a negative potential or vice versa during each period in the pulse train.

24. (New) The method of claim 20, wherein said pulse program is specific to each electrode.

25. (New) The method of claim 24, wherein one electrode is platinum and the initial pulse step is from –2V to +2V, and thereafter incrementally decreases towards zero, and

optionally after a cross-over at zero V, the steps change polarity such that the pulses extend from negative to positive until a maximum of -2V and +2V respectively, is reached, and then back to zero.

26. (New) A system for detection of urea concentration in liquid such as blood, other urea containing body fluids, dialysate or a combination thereof, according to the method of claim 20 comprising,

a voltammetric sensor unit comprising at least one working electrode,

a counter electrode,

a potentiostat having a programmable pulse generator, and

a processing unit arranged to determine the urea concentration in the liquid by mathematical processing of voltammetric data using a model based on multivariate analysis.

27. (New) The system of claim 26, further comprising a reference electrode.

28. (New) The system of claim 26, wherein said liquid is a dialysate and wherein said sensor unit is arranged in a dialysate flow path after a filter unit of a dialysis apparatus.

29. (New) The system of claim 28, comprising a further sensor unit, arranged before said filter unit.

30. (New) The system of claim 26, wherein said liquid is blood derived from a patient and wherein said sensor unit is arranged to measure the urea concentration in a sample of said blood.

31. (New) The system of claim 30, wherein said blood is sampled by continuously withdrawing blood from a patient, and wherein said sensor unit is arranged in the flow path of the blood.

32. (New) The system of claim 26, comprising a display unit for graphically monitoring the measurements in real-time, e.g. as a graph.

33. (New) The system of claim 26, further comprising a device presenting a visual and/or audio signal representation of when a predefined result has been detected.